

WHAT IS CLAIMED IS:

1. A pattern formation method comprising the steps of:
forming a resist film of a chemically amplified resist material including a base polymer having a lactone group and
5 having neither a hydroxyl group nor a carboxylic group as an adhesion group bonded to a polymer side chain, and an acid generator for generating an acid through irradiation with light;

irradiating said resist film with extreme UV of a
10 wavelength of a 1 nm through 30 nm band for pattern exposure;
and

forming a resist pattern from an unexposed portion of
said resist film by developing said resist film after the
pattern exposure.

15 2. The pattern formation method of Claim 1,
wherein said lactone group is a γ -butyrolactone group,
a δ -butyrolactone group, a mevalonic lactone group or an
adamantyl lactone group.

20 3. The pattern formation method of Claim 1,
wherein said chemically amplified resist material has
an aromatic compound that does not generate an acid through
irradiation with said extreme UV.

4. The pattern formation method of Claim 3,
wherein said aromatic compound is styrene, aniline,
25 methoxybenzene, methoxystyrene, methylstyrene, hydroxybenzene

or hydroxystyrene.

5. The pattern formation method of Claim 1,

wherein said extreme UV has a wavelength of a 13 nm band.

5 6. A pattern formation method comprising the steps of:

forming a resist film of a chemically amplified resist material including a base polymer, an acid generator for generating an acid through irradiation with light and an aromatic compound that does not generate an acid through
10 irradiation with light;

irradiating said resist film with extreme UV of a wavelength of a 1 nm through 30 nm band through a mask for pattern exposure; and

forming a resist pattern from an unexposed portion of
15 said resist film by developing said resist film after the pattern exposure.

7. The pattern formation method of Claim 6,

wherein said aromatic compound is styrene, aniline, methoxybenzene, methoxystyrene, methylstyrene, hydroxybenzene
20 or hydroxystyrene.

8. The pattern formation method of Claim 6,

wherein said base polymer includes no aromatic.

9. The pattern formation method of Claim 6,

wherein said extreme UV has a wavelength of a 13 nm
25 band.